

## **Science 9 Workbook and Science 10 Workbook: take a closer look**

### **Each Workbook is an integrated package of print and electronic material**

Theory and Practical activities are in the printed book, while each CD contains about 200 interactive computer tasks, over 100 classroom Quizzes, an Active pdf of the Workbook, Answers files for both theory and practical activities and additional files for teachers. **Over half the learning material in the package is on the CD.** (899 files, 267 MB of data on the Science 9 CD!)

- **Science 9 and Science 10 were written for the New Curriculum**

This material was written for the new curriculum, with minor changes made to the first printing of *Science 9* to reflect the guidelines given in 2008.

Where the curriculum writers have recommended new content (such as the investigation of Planets and their Moons in *Science 9*, and the Earth Systems Science material in *Science 10*), we have been careful to include all the information needed within each activity, so that teachers do not need to spend hours researching the material before teaching the lesson. The fully-worked answers to all questions will give teachers extra security in teaching unfamiliar material.

- **Raising student achievement**

To do well in NCEA examinations students need a good knowledge of the facts and vocabulary of each topic, and the ability to link ideas in quality sentence and paragraph responses. The foundations for success in Year 11 are laid in Years 9 and 10.

**Our Workbooks are designed to drill students in the basics**, with key words and phrases repeated through many different computer tasks, quizzes, theory and practical activities. As they interact with the material in different ways, new pathways form in their brains and their understanding deepens.

If students are to write Merit and Excellence responses in Year 11, they need to be given practice in answering this style of question in Years 9 and 10. **A large number of the theory activities in the Workbooks contain either Merit or Excellence style questions.** Some passages, especially in *Science 9* are partially filled in, to guide students through the process of writing a response containing several links. The Answers to theory questions detail what is required for A, for M and for E on these questions. This is important because less able students need to learn how to score A on an E question.

- **Practicals**

All science teachers believe practicals to be important in science, however many students actually do few practicals because they've spent all their time copying down the method. Others may have done the experiment, but they've got no record of it in their books. The *Workbook* practicals cover all essential experiments for each topic and ensure that every student is able to get straight into the practical and will have a record of it afterwards. Having a common set of practicals in the *Workbook* also makes it easy for HODs to be sure that all classes are covering the same core work.

- **Are the Workbook activities too hard?**

About one third of the Theory activities in the *Workbooks* contain questions intended for the more able students. Less able students may need to be guided through some of these activities in class. Teachers of lower band classes will probably skip some theory activities altogether — giving them more time for the large number of theory tasks they can complete. These students will find the computer activities of greater value though — for in class use as (with a data projector or interactive white board) well as for homework. However, if any of the students in your lower-band classes will be going on to NCEA science in Year 11, they will need training in answering discussion-type questions in Years 9 and 10.

- **Photocopying costs multiply**

Without an issued text book or *Workbook*, some schools are handing out 4 sheets of paper per student per week — sometimes more. Students need to buy an extra two exercise books just to hold those pages! **While use of *Science 9* and *Science 10* won't completely eliminate the need for copying, it does dramatically reduce it.**

- **Teacher support files**

The electronic copies of the *Workbook* text on the CD of each book are in the form of **Active pdf** files. All the write-on spaces have been turned into typeable form fields, while extra Comment and Markup Tools have been provided for Adobe Reader to allow the user to highlight text, draw diagrams and even add their own links to other material on their own system or online. Active pdfs are useful for the small but growing number of students who are using laptops in class, but **their primary use is for teachers using data projectors**. As students work through the exercises in their *Workbooks*, teachers complete the same task on-screen, modelling the correct working.

**Quizzes** for every topic are password-protected on the student CD, for teachers to use in class. Most quizzes parallel the computer activities, but some reinforce skills not suitable for the computer activities.

The **Workbook Maps** show how all the resources in the package work together, and also provide teachers with Specific Learning Objectives for every topic. They're on the CD as editable Word files so that teachers or HODs can move things around, add or delete material to fit their school scheme. **The Maps can also be downloaded from the WignallandWales website, ([www.wignallandwales.co.nz](http://www.wignallandwales.co.nz))** so teachers thinking about buying the *Workbooks* can have a close look at what is covered by each book.

A **Technician's Guide** for the practicals, detailing the equipment and chemicals required for each practical together with any other relevant information, is also on the CD.

- **We do things differently...**

The Level 5 Science is a two-year course and each school decides which topics to teach in which year. The topics we put in each book reflect the most common divisions in the schools we surveyed, but we recognise that many schools will find one topic is in the wrong book for their school. To mitigate this problem, **we have put printable pdf files for those most common 'overlap topics' on the CD, plus all the computer activities for those topics.**

<i>Science 9 Workbook</i>	<i>Science 10 Workbook</i>
Introduction to science	Being a scientist (skills revision)
Air, water and combustion*	Basic chemistry*
The nature of matter	Acids and bases
Laboratory techniques	Fuels
Elements, compounds and mixtures*	Human reproduction and genetics*
Plant life	Organ systems*
Plant reproduction*	Geology
Food and digestion*	Earth Systems Science*
Communities	Force, mass and motion*
Energy*	Electricity
Radiant energy and sound*	
Our solar system*	

Those chapters marked with a \* are copied on the CD of the other book.

The sample material on our website is intended to give you some idea of the variety of resources available in each *Workbook*. I hope you'll explore it before making your decision.

Please contact me if you have further questions: [anne@wignallandwales.co.nz](mailto:anne@wignallandwales.co.nz).